



Science
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*The Canadian
Science Counsellor Network*



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Wanted: A Window on International Science and Technology

In the highly competitive world of international trade, a company's survival can depend on its ability to meet the rapidly changing needs of its customers at home and abroad. Knowledge of markets is essential. So too is speed in transforming innovative ideas into useful products. Access to, and the capacity to use, the best available technologies can spell the difference between success or failure. Not surprisingly, staying informed about "offshore" developments in science and technology (S&T), the status and potential of foreign markets, and the opportunities created by the policies of foreign governments is a top priority for many firms.

Canada is a relative newcomer to international trade in knowledge-intensive goods and services. Traditionally an exporter of agricultural products and natural resources, Canada has worked purposefully to diversify her economy during the past two or three decades. But domestic research and development represent only a small portion of the S&T effort worldwide. Enterprising Canadian firms cannot afford to waste time and money "reinventing the wheel." *They must find ways of augmenting their own R&D with that performed elsewhere, while vigorously promoting their own products and processes abroad.*

Information about foreign developments and markets is available through scientific networks, professional journals, trade fairs, and government publications. Some larger firms have representatives in foreign capitals to monitor and report on developments there. Those who cannot afford to do so rely on the trade commissioners and commercial officers located at Canadian foreign embassies. Still another source of information, one that is available to all Canadians and that specializes in gathering scientific and technical information, is the science counsellor* network.

*The term science counsellor refers to Canada's diplomatic personnel serving this function at certain of our foreign embassies. Despite their title, they are in no way connected with the Science Council of Canada.

Canada's Science Counsellors: The Vital Link

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Canada's six science counsellors are located at Canadian embassies in London, Washington, Paris, Bonn, Tokyo, and Brussels. At these posts, the science counsellors are involved in inter-governmental exchanges of information and liaison on science policy issues. As members of the embassy staff, they advise the ambassador on matters related to science and technology, and take part in many of the embassy's political and cultural activities. But their most important function is to collect information about S&T activities in the host country and to promote Canadian achievements in these areas.

Canada's science counsellors are highly trained professionals who have been seconded to the Department of External Affairs from other science-based departments and agencies of the federal government. They are scientists, engineers, or science policy experts with extensive experience in their fields. Before assuming their duties as science counsellors, they are trained in the diplomatic process, the language and culture of the host country, and the operations of the science counsellor network. Once posted, they report through the ambassador to the appropriate geographic bureau within External Affairs.

With the help of their “home base” office, the science counsellors distribute the information they acquire to clients inside and, on occasion, outside the federal government. The users of this information have traditionally been other federal departments and agencies involved in foreign policy or scientific research, provincial governments and provincially funded research institutes, and some researchers at Canadian universities. University researchers call on the science counsellors to arrange exchanges and joint research projects, or to negotiate formal agreements requiring intergovernmental cooperation.

Now private firms are more often becoming clients of the science counsellors. In an effort to keep informed of international S&T developments, some private companies are turning to the science counsellor network for information vital to the development of new products and markets. These companies seek to use the counsellors’ network of diplomatic contacts, their knowledge of both written and unwritten procedures, and their familiarity with market potentials and pitfalls to establish and protect their interests in the host country.

Who Could Benefit?

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Science counsellors can help:

- *Small and medium-sized enterprises having little knowledge of the foreign country in which they wish to do business.* When time permits, a science counsellor can establish contacts, make introductions, locate agents and firms wishing to undertake joint ventures, and provide details on product standards and marketing regulations in the host country. Firms having little or no in-house R&D capability can, with the aid of a science counsellor, get access to foreign sources of information and technology.
- *High-technology industries requiring up-to-date information on offshore developments in specialized fields.* Science counsellors cannot be expected to serve as foreign agents of firms or institutions. When given sufficient time and adequate staff, however, they can be relied on to gather general information on specific subjects, identify leads, and help specialists acquire more detailed information for analysis. As facilitators, they can help overcome obstacles of culture and language that may block a firm's entry into a foreign market or scientific community. As representatives of Canada with full diplomatic status, they can open doors that might otherwise remain closed to a company's representatives.

- *Firms working in the more traditional sectors of the Canadian economy — forestry, agriculture, mining, and fisheries. A well-trained and well-supported science counsellor can supply these firms with information about state-of-the-art innovations. Such information could help domestic firms update existing technologies and processes to better meet the challenge of heightened international competition.*
- *Professional associations and science writers seeking information about scientific developments abroad or the policy directions of foreign governments. Science counsellors have the ability to prepare in-depth issue papers in response to specific requests.*

Preparing Now to Meet Tomorrow's Needs

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Today, science and technology are more important than ever to Canada's industrial development. The Science Council of Canada recognizes a pressing need for more dynamic representation of private sector interests abroad and for an enhanced information gathering and dissemination network tailored to the requirements of the Canadian business community. To answer this need, the Council has recommended measures designed to strengthen Canada's existing science counsellor system. Published in a recent Council statement, *The Canadian Science Counsellors*, the recommendations include:

- Expansion of the science counsellor network to provide representation in New York, San Francisco, Northern and Southern Europe, East Asia, and Australasia. Most countries now recognize that much of the new technology they require must come from foreign sources and have boosted their science counsellor systems accordingly. France, for example, now has 30 S&T representatives stationed in foreign capitals, twice as many as in 1969. During the same period, Italy increased its complement of science counsellors from one to 13. By contrast, Canada today has only six science counsellors — just two more than were meeting our much more modest needs 14 years ago.

- Strengthening of the home-base unit within External Affairs responsible for expediting the flow of information to and from the science counsellors and their clients, and making it more accessible to Canadian businesses.
- More emphasis on the collection and distribution of technological information of interest to Canadian industries, particularly to small and medium-sized companies.
- Creation of a program to increase awareness of the science counsellor network among potential clients, particularly within the private sector.
- Increased cooperation between the science counsellors and Canada's trade commissioners and mission-oriented science officers stationed abroad.

An Untapped Potential

- Assignment of additional staff to the science counsellors to free them from purely administrative tasks (such as arranging visits) that now occupy much of their time. This would allow science counsellors to attend to their more important functions, particularly that of identifying technologies and related opportunities of interest to Canadian clients.
- Changes to the existing selection process to allow for open competitions that will ultimately include candidates from industry and other non-government sectors.

The science counsellor system is an important source of information about foreign science policies, research activities, and technological advances of potential interest to Canadians. It is also a channel open to Canadian firms seeking to introduce their innovations to foreign markets. But the enormous potential of the system remains largely untapped. To make the system work effectively on behalf of Canadian industry, the needs of industry must be articulated and made known.

Canada's science counsellors now deliver important services to governments, provincial research organizations, and universities. Improvements to the system recently initiated by the Department of External Affairs will make the science counsellor network more responsive to the needs of private industry. But the science counsellors cannot work in a vacuum. Precise questions are needed for precise answers.

Your views can make a difference. Send your comments on the value and potential of the Canadian science counsellor system, together with suggestions about how the system could better serve your needs, to:

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The Science Council of Canada will be pleased to make your views known to the Department of External Affairs.

About the Science Council

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The Science Council of Canada is Canada's national advisory agency on science and technology policy. Reporting to Parliament through the Minister of State for Science and Technology, the Science Council operates at arm's length from government, designing its own programs of research and publishing its findings at its own discretion.

In preparing its statement entitled *The Canadian Science Counsellors*, the Council consulted current and former science counsellors and representatives of client departments within the federal and provincial governments, provincial research organizations, universities, and industry. The statement assesses the structure, effectiveness, and potential of the science counsellor network and suggests changes to the system that would enable it better to serve the needs of Canadians in a changing world economy. Copies of the statement are available from the publications office of the Science Council.

Recent Science Council Publications of Related Interest

Canadian Industrial Development: Some Policy Directions

Science Council Report 37, 1984.

Governments and Microelectronics: The European Experience

by Dirk de Vos, Science Council Background Study 49, 1983.

Threshold Firms: Backing Canada's Winners

by Guy P.F. Steed, Science Council Background Study 48, 1982.

The Adoption of Foreign Technology by Canadian Industry

Proceedings, 1981.

Challenge of the Research Complex: Policy Mechanisms for Collaboration and Transfer of Science and Technology among Industry, University and Government

Proceedings and Papers, 1981.

Canadian Government Participation in International Science and Technology

by Jocelyn Maynard Ghent, Science Council Background Study 44, 1979.

